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EXERCISES
FOR
TECHNICAL INSTRUCTION IN WOOD-WORKING.

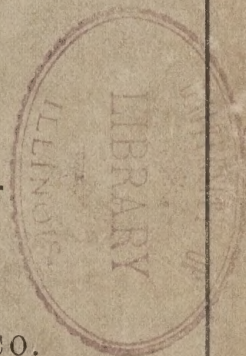
DESIGNED AND DRAWN BY
H. JAY,
TECHNICAL INSTRUCTOR, NOTTINGHAM SCHOOL BOARD.

ARRANGED BY
E. R. KIDSON, F.G.S.
SCIENCE DEMONSTRATOR, NOTTINGHAM SCHOOL BOARD.

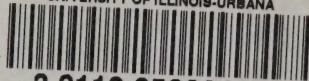
SET II.—Plates 33 to 64.

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SPLICE JOINT

FIG 2.

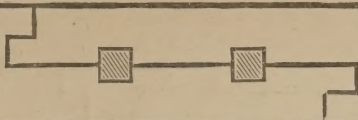


FIG 1.

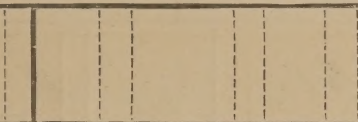


FIG 3.

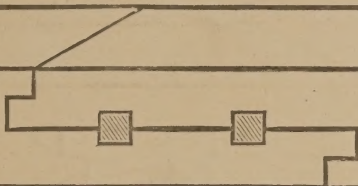


FIG 4.

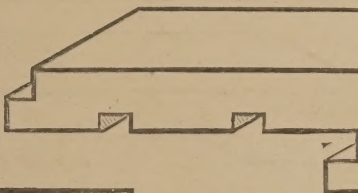


FIG 5.

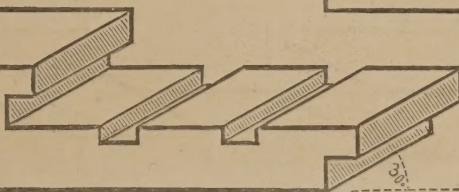


PLATE 64.

SCALE 6"=1'

Plane up a piece of wood to $11 \times 1\frac{1}{2} \times 1\frac{1}{2}$ and halve it. Mark the front face of these as in fig. 2; square over to the back and mark similarly. Take out the wood with saw and chisel, as shown in figs. 4 and 5, and prepare keys to fit the grooves.

SPLICE JOINT

FIG 2.

FIG 1.

FIG 3.

FIG 4.

FIG 5.

PLATE 63.

SCALE 6"=1'

Plane up a piece of wood to $11 \times 1\frac{1}{4} \times 1\frac{1}{4}$ and halve it. Mark the front face of these as in fig. 2; square over to the back and mark similarly. Cut away the waste with saw and chisel. Make wedges as shown by dotted lines in fig. 1.

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SPLICE JOINT

FIG 2.



FIG 1.

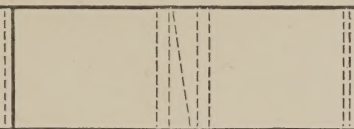


FIG 3.

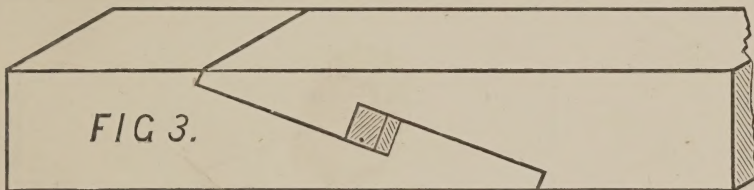


FIG 4.

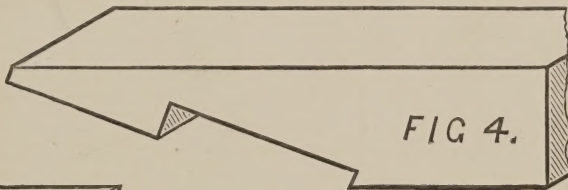


FIG 5.

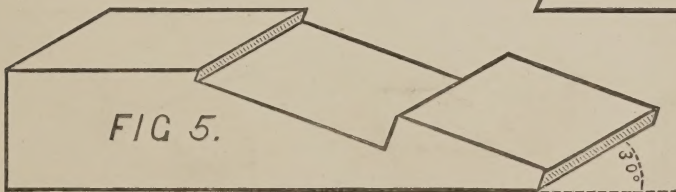


PLATE 62.

SCALE 6"=1'

Prepare piece of wood $11 \times 1\frac{1}{4} \times 1\frac{1}{4}$ and halve it. Mark the front face as shown in fig. 2; square over to the back and mark this similarly. Cut away the wood to these marks with saw and chisel. Make keys, as shown by dotted lines in fig. 1, and drive one from each side.

SPLICE JOINT

True up a piece of wood to $11 \times 1\frac{1}{2} \times 1\frac{1}{2}$ and halve it. Gauge front face, as shown in fig. 2, noting space for keys. Square over to the back face and gauge this like the front. Take out the wood with saw and chisel to these lines. Prepare wedges, as shown in fig. 1 by dotted lines, and drive one from each side.

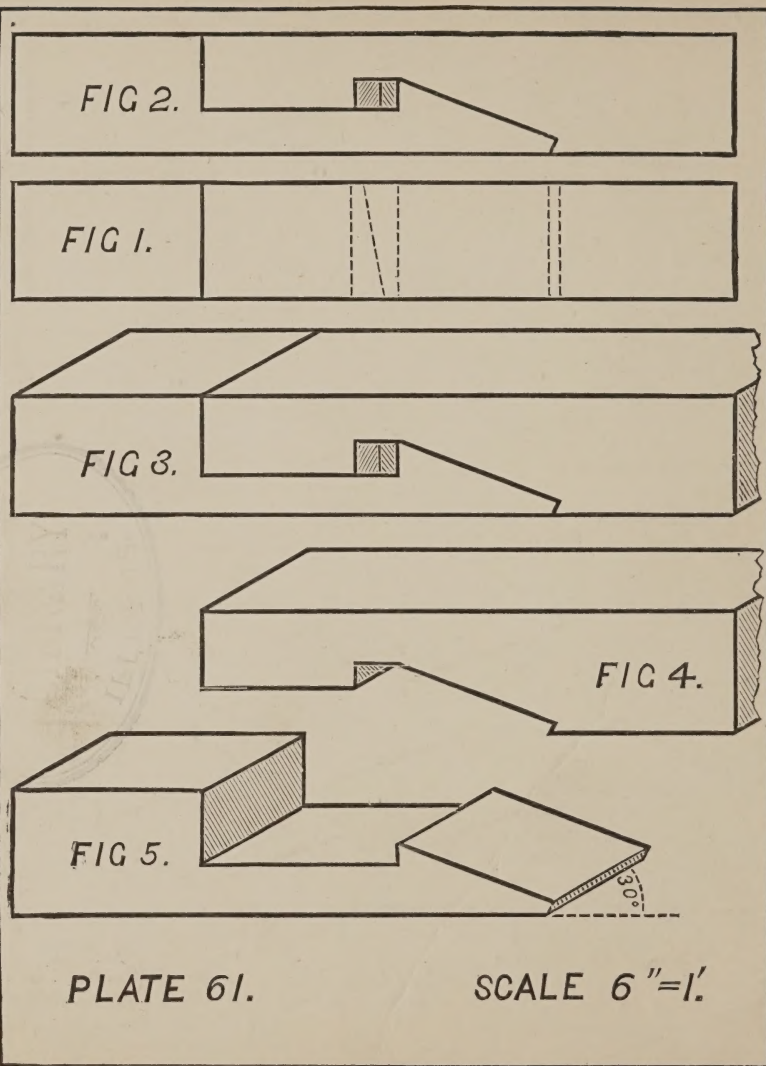


PLATE 61.

SCALE 6"=1'

SPLICE JOINT

FIG 2.

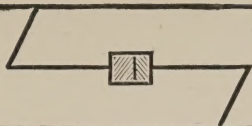


FIG 1.

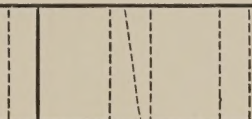


FIG 3.

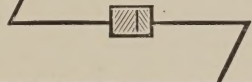


FIG 4.

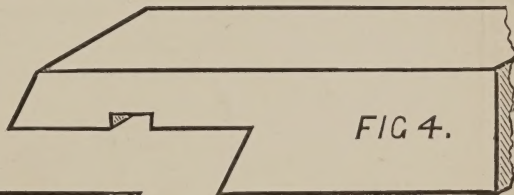


FIG 5.

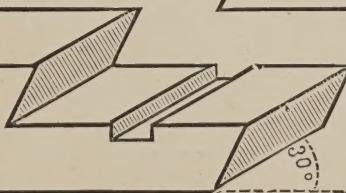


PLATE 60.

SCALE 6"=1'

True up a piece of wood to $10 \times 1\frac{1}{4} \times 1\frac{1}{4}$ and halve it. Gauge as in figs. 1 and 2. Saw to the marks and take out the wood from the grooves with a chisel. Prepare the keys, of hardwood, to shape and size shown in fig. 1.

SPLICE JOINT

True up a piece of wood to $10\frac{1}{2} \times 1\frac{1}{4} \times 1\frac{1}{4}$ and halve it. Gauge, as shown in figs. 1 and 2, and saw exactly to the marks. Pare away the deeper part with a chisel—marked A B and C D, fig. 5. Prepare two wedges, as indicated in fig. 1 by dotted lines, and drive one in from each side.

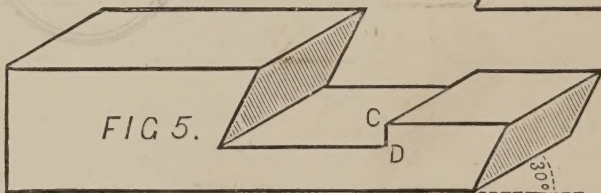
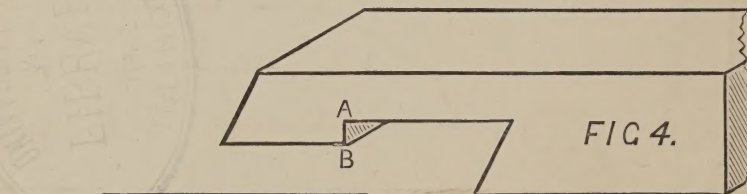
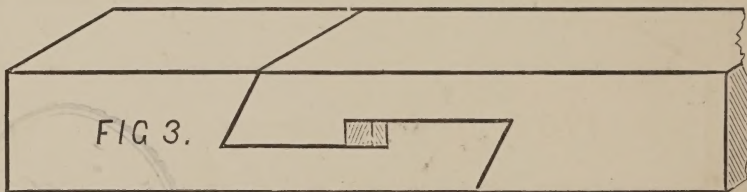
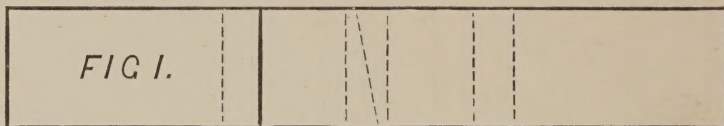
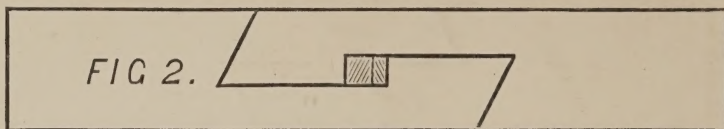


PLATE 59.

SCALE 6" = 1'

SPLICE JOINT

True up a piece of wood to $10\frac{1}{2} \times 1\frac{1}{4} \times 1\frac{1}{4}$ and halve it. Gauge as shown in fig. 2. Saw to the lines and take out waste in the grooves with a chisel. Make the two keys, of hard wood, to size indicated in fig. 3.

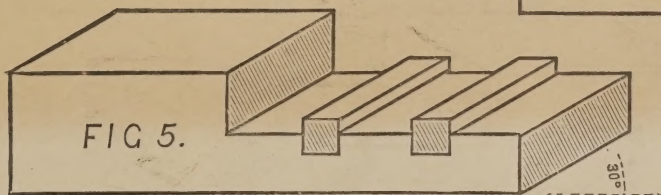
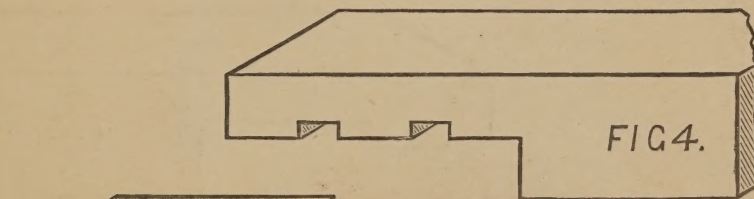
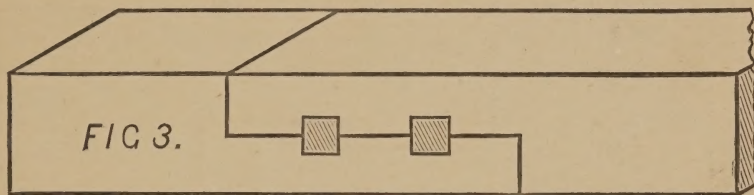
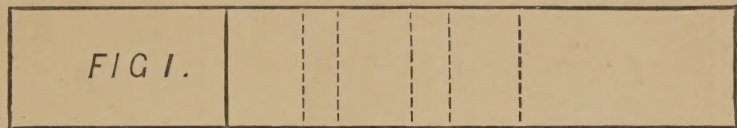
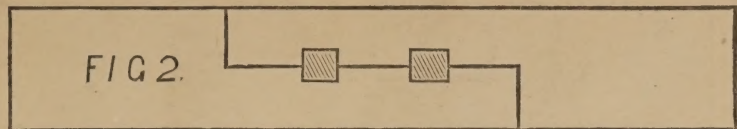


PLATE 58.

SCALE 6" = 1'.

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SPLICE JOINT

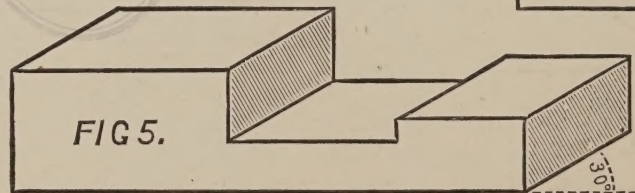
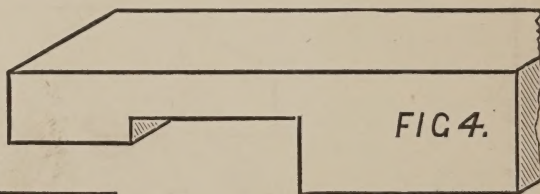
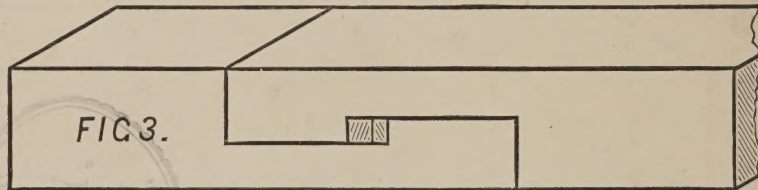
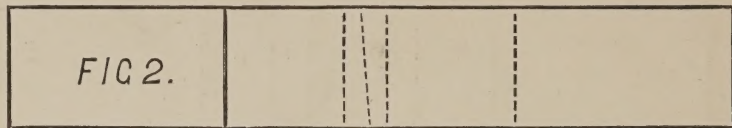
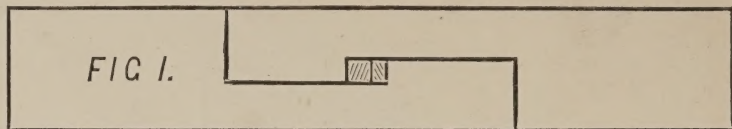


PLATE 57.

SCALE 6"=1'

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True up a piece of wood to $10\frac{1}{2} \times 1\frac{1}{4} \times 1\frac{1}{4}$ and halve it. Gauge as shown in fig. 2; saw to the marks, and take out with chisel. Make the wedges to shape and size indicated by dotted lines in fig. 1, and drive one home from each side.

PROJECTION OF MITRED DOVETAIL JOINT

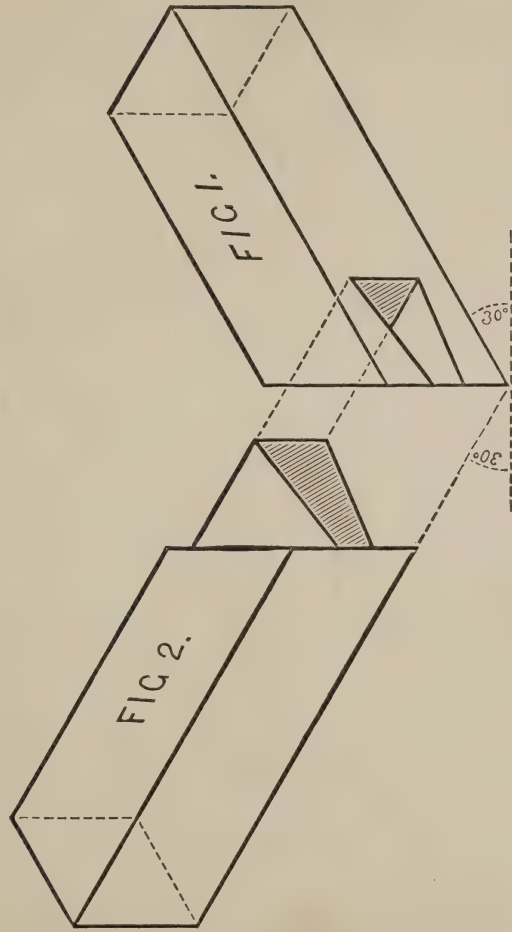


PLATE 56.

SCALE 6"=1'

MITRED DOVETAIL JOINT

True up a piece of wood to $9 \times 1\frac{1}{4}$ $\times 1\frac{1}{4}$ and halve it. Mitre each piece, and on one set out the pin and cut away the waste with a saw. Mark the pin off on the other piece, and take out the wood with saw and chisel.

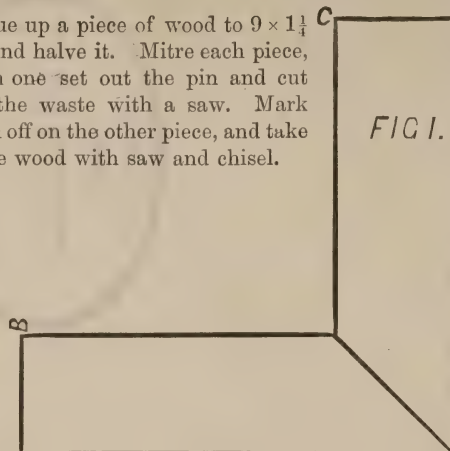


FIG. 1.

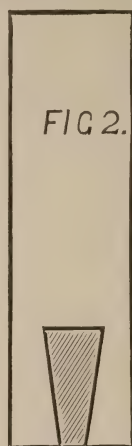


FIG. 2.

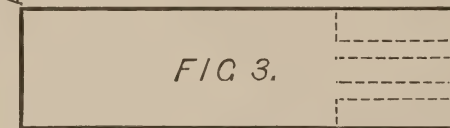


FIG. 3.

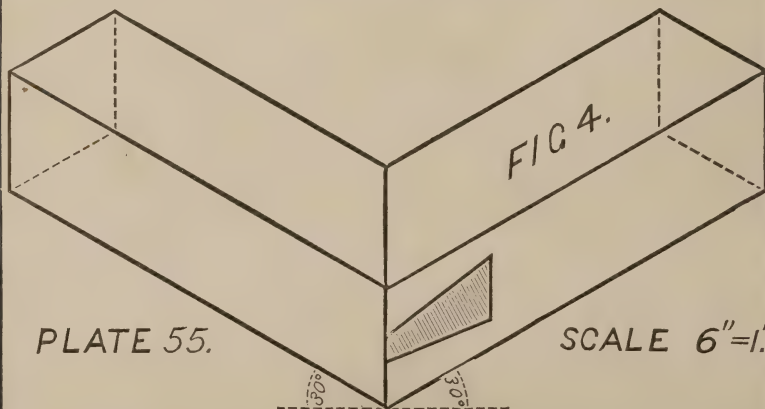


FIG. 4.

PLATE 55.

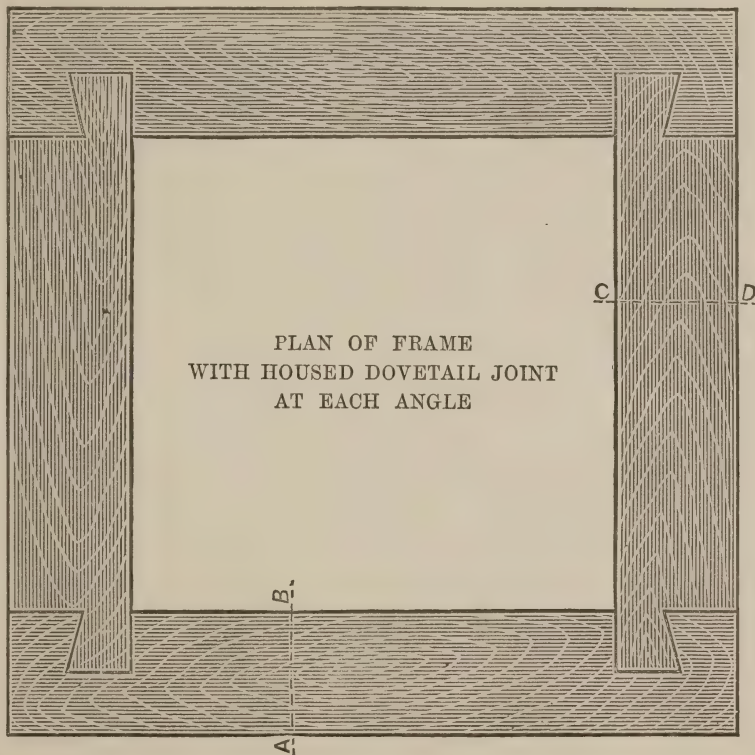
SCALE 6"=1'

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FRAME WITH HOUSED DOVETAIL JOINTS

True up two pieces of wood to $7\frac{1}{2} \times 1\frac{1}{4} \times 1\frac{1}{4}$, and two others to $6\frac{1}{4} \times 1\frac{1}{4} \times 1\frac{1}{4}$. At each end of the shorter ones mark out the pins and saw off the waste. Set out the size of the pegs at each end of the longer pieces. Saw a little inside the marks, and take out the wood with a chisel.



PLAN OF FRAME
WITH HOUSED DOVETAIL JOINT
AT EACH ANGLE

PLATE 54.

SCALE 6"=1'

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PROJECTION OF CORNER HOUSED DOVETAIL JOINT

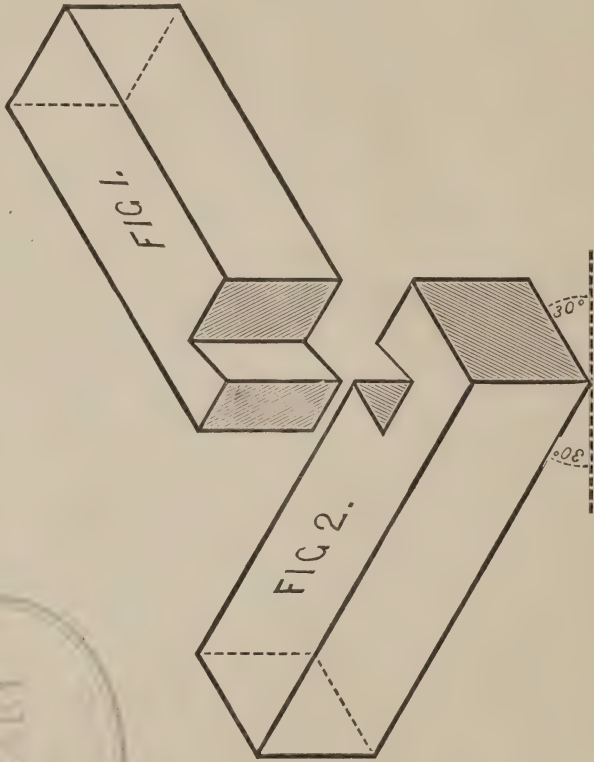


PLATE 53.

SCALE 6"=1'.

CORNER HOUSED DOVETAIL JOINT

True up a piece of wood to $8\frac{1}{2} \times 1\frac{1}{4} \times 1\frac{1}{4}$ and cut into two, $4\frac{1}{2}$ and 4 respectively. At the end of the shorter mark and saw the pin. Set out this at the end of the longer. Saw just inside the lines, and take out the waste with a chisel.

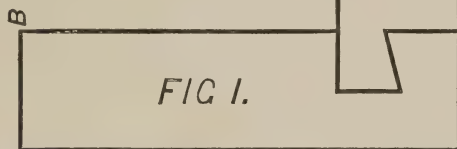


FIG. 1.

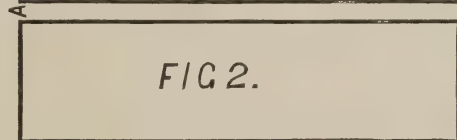


FIG. 2.

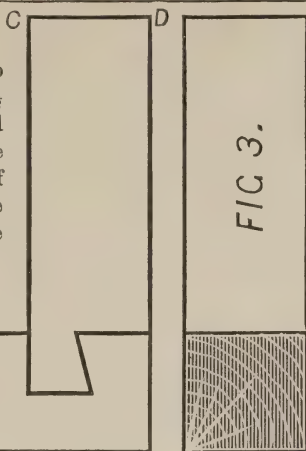


FIG. 3.

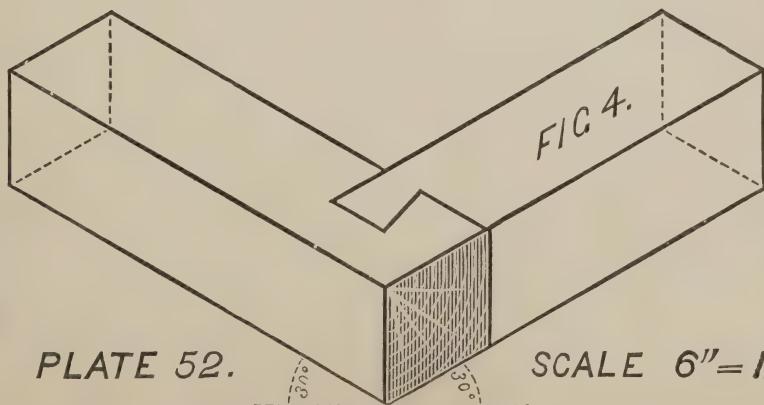


PLATE 52.

SCALE 6"=1"

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PROJECTION OF DOVETAILED CORNER

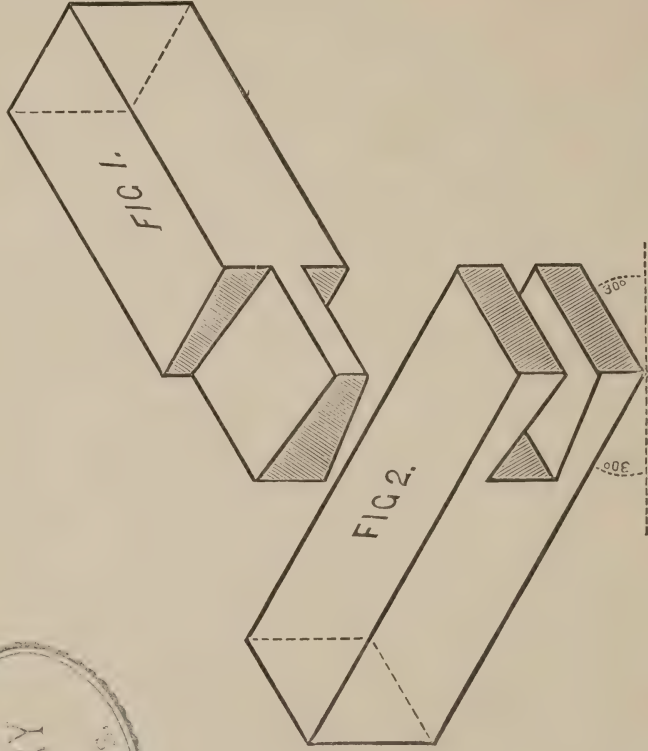
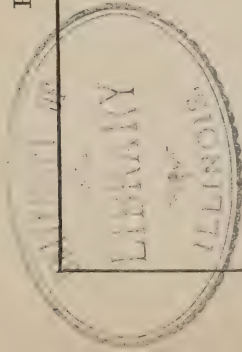


PLATE 51.

SCALE 6"=1'



CORNER DOVETAIL JOINT

True up a piece of wood to $9 \times 1\frac{1}{4} \times 1\frac{1}{4}$ and halve it. At the end of one gauge for the pin, and cut away the waste with a saw. Mark out the size of the pin at the end of the other piece. Saw a little inside the lines, and take out the wood with a chisel.

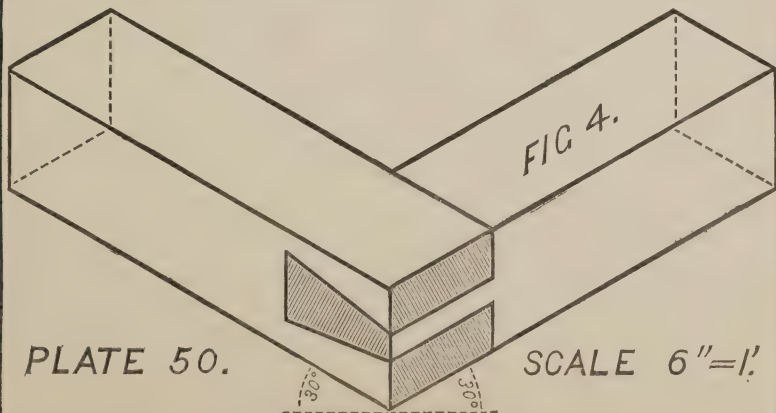
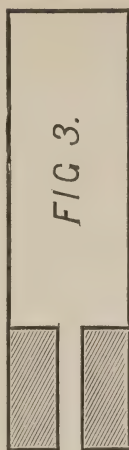
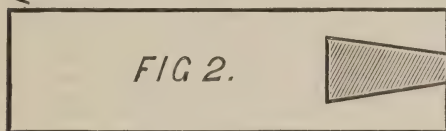
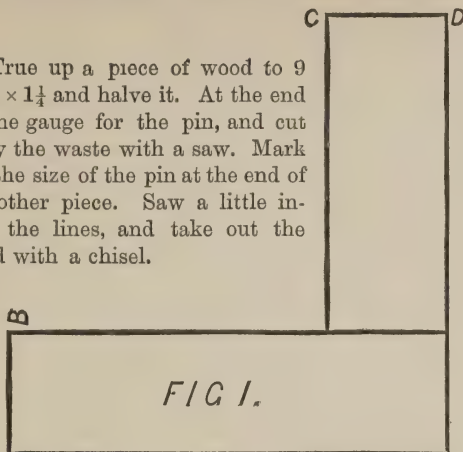


PLATE 50.

SCALE 6"=1'

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PROJECTION OF HOUSED DOVETAIL JOINT

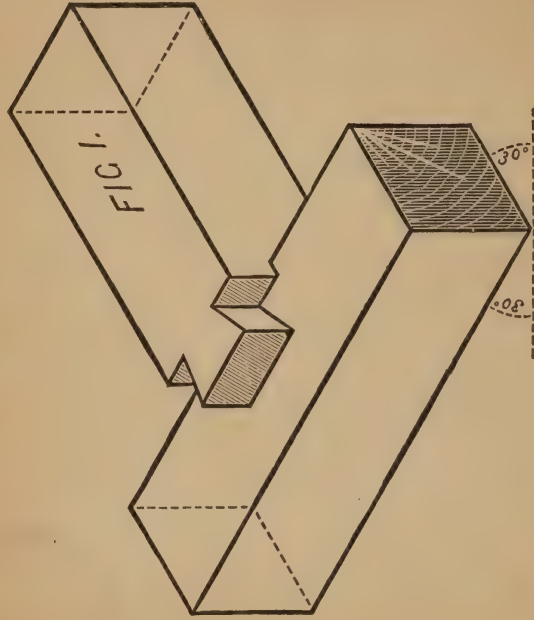


PLATE 49.

SCALE 6" = 1'

DOVETAILED AND HOUSED JOINT

True up a piece of wood to $8\frac{1}{4} \times 1\frac{1}{4} \times 1\frac{1}{4}$ and cut into two, $4\frac{1}{2}$ and $3\frac{3}{4}$ respectively. On the end of the shorter set out the pin and cut with a saw. On the former mark out the pin at the centre, allowing for the housing. Cut out with saw and chisel.

FIG 1.

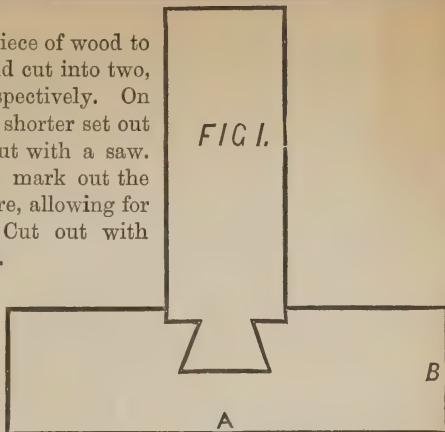


FIG 3.

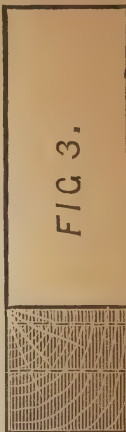


FIG 2.

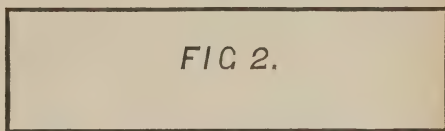


FIG 4.

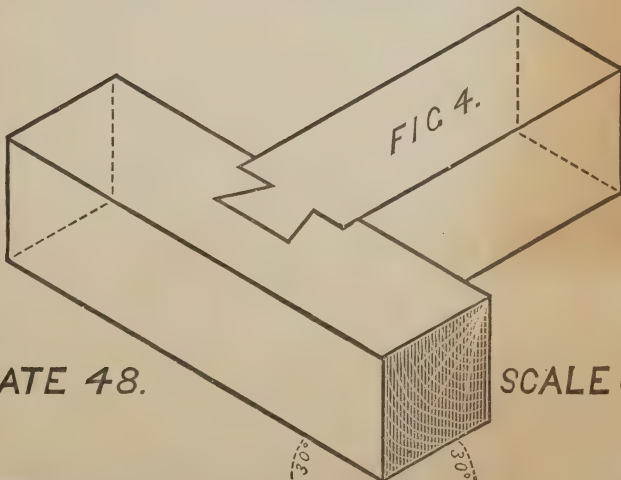


PLATE 48.

SCALE $6''=1'$

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PROJECTION OF DOVETAIL JOINT

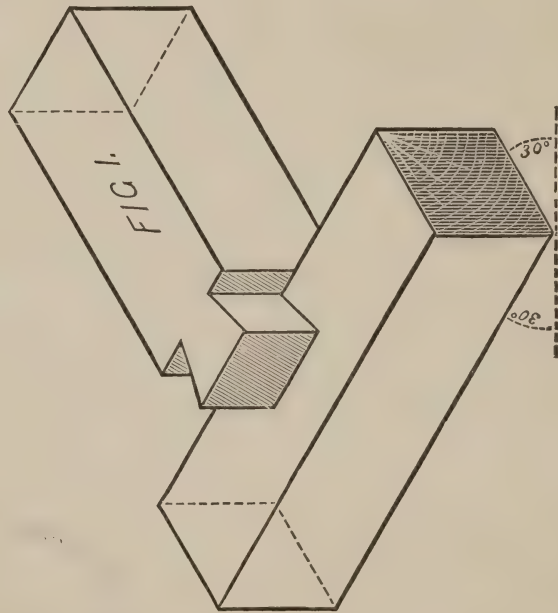


PLATE 47.

SCALE 6" = 1'.

DOVETAIL JOINT

True up a piece of wood to $8\frac{1}{4} \times 1\frac{1}{4} \times 1\frac{1}{4}$; cut into two, $4\frac{1}{2}$ and $3\frac{3}{4}$ respectively. On the latter cut the short peg with a saw. Set out the peg on the longer piece; saw to the mark, and take out the piece with a chisel.

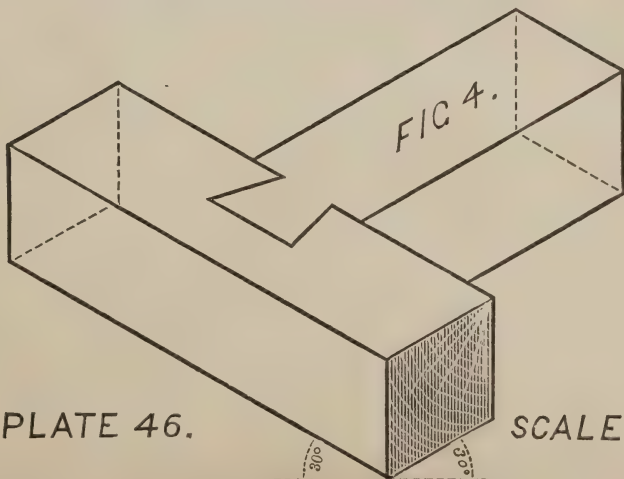
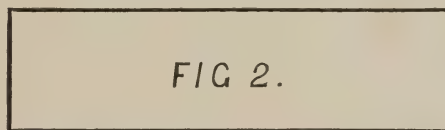
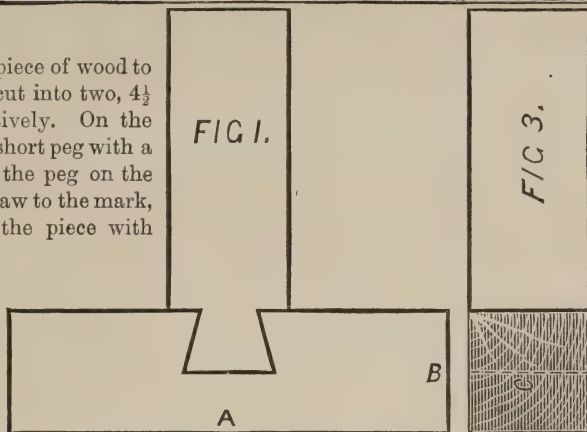


PLATE 46.

SCALE 6"=1.

PROJECTION OF CENTRE HALF-LAP DOVETAIL JOINT

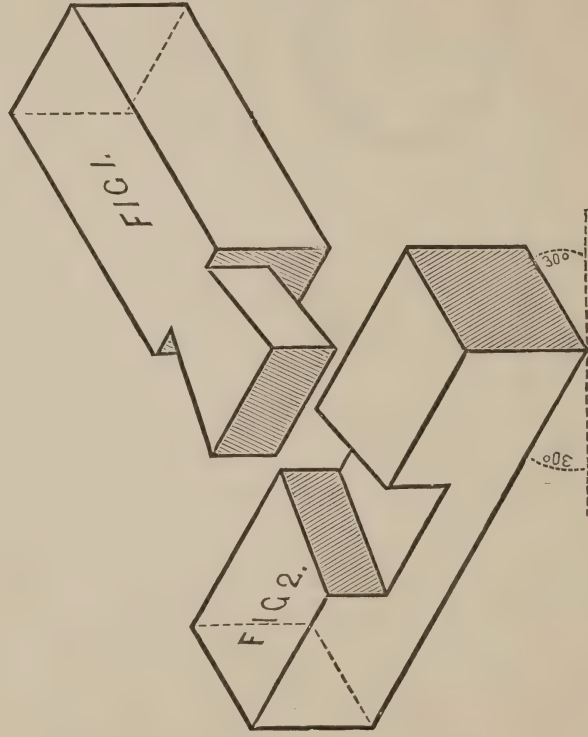
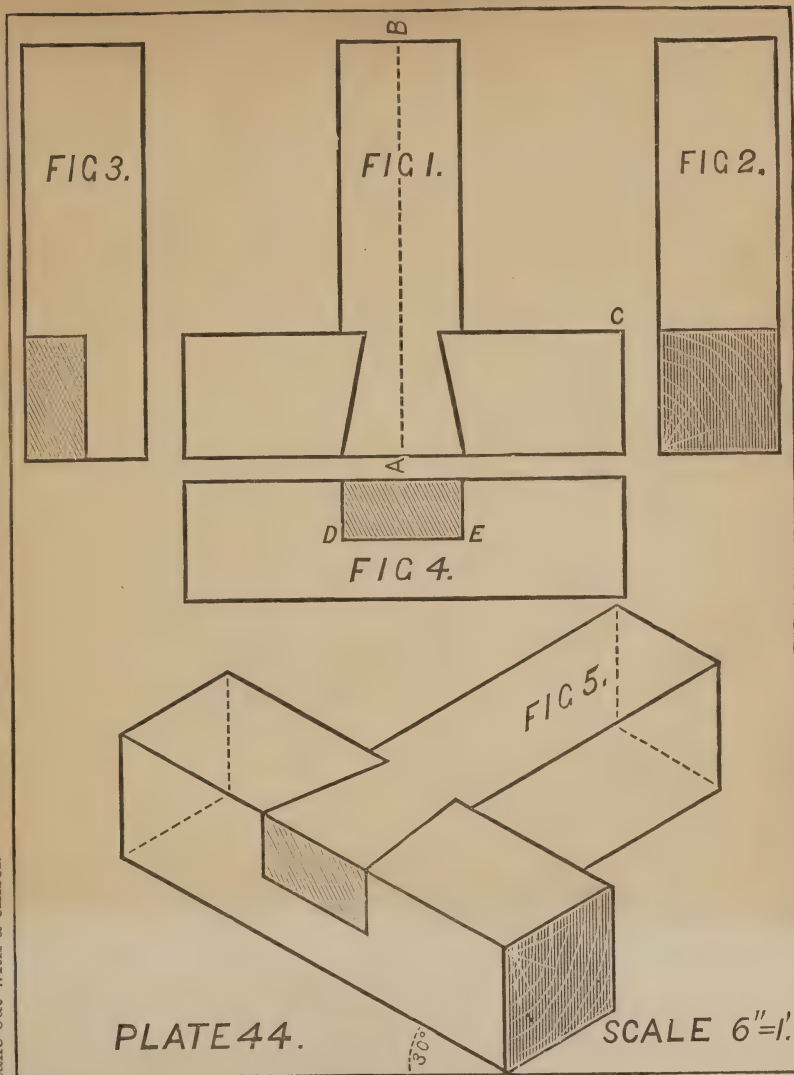


PLATE 45.

SCALE 6"=1'

CENTRE HALF-LAP DOVETAIL JOINT

True up a piece of wood to $8\frac{3}{4} \times 1\frac{1}{4} \times 1\frac{1}{4}$ and cut into two, $4\frac{1}{2}$ and $4\frac{1}{4}$ respectively. Gauge the former to receive the peg; saw out the line D E, fig. 4, and the peg, and saw out the waste. Gauge the former to receive the peg; saw to the line D E, fig. 4, and take out with a chisel.



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PROJECTION OF CORNER OF SINGLE PANELLED FRAME

True the panel $\frac{3}{8}$ " longer and wider than shown in sketch, and leave it $\frac{1}{4}$ " thick. The styles when finished must be $9 \times 1\frac{1}{2} \times \frac{3}{4}$, and the rails $6 \times 1\frac{1}{2} \times \frac{3}{4}$. Cut tenon at each end of each rail as shown by dotted lines in Plate 42. Mortise each end of each style as shown in Plate 43, fig. 2. Plough styles and rails $\frac{1}{4}$ " deep to receive the panel.

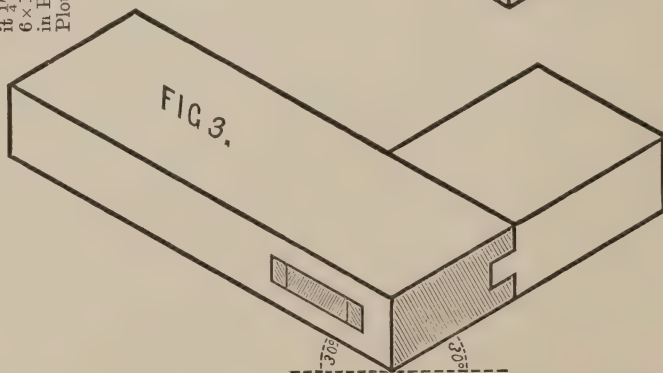
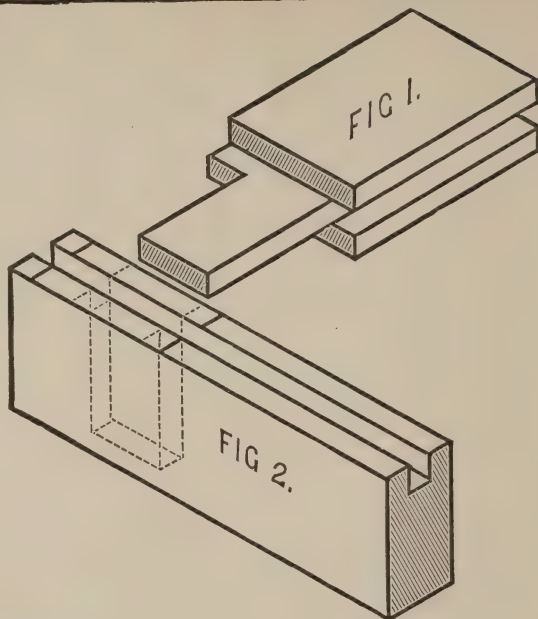


PLATE 43.

SCALE $6''=1'$

SINGLE PANELLED FRAME

True the panel $\frac{1}{4}$ " longer and wider than shown in sketch, and leave it $\frac{1}{4}$ " thick. The styles when finished must be $9 \times 1\frac{1}{2} \times \frac{3}{4}$, and the rails $6 \times 1\frac{1}{2} \times \frac{3}{4}$. Cut tenon at each end of each rail as shown by dotted lines in Plate 42. Mortise each end of each style as shown in Plate 43, fig. 2. Plough styles and rails $\frac{1}{4}$ " deep to receive the panel.

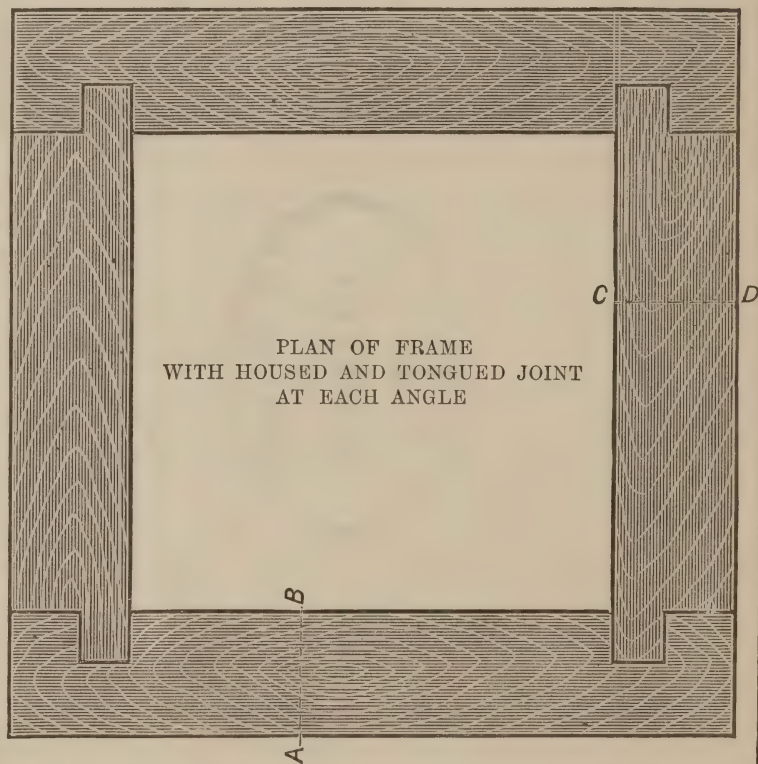


PLATE 42.

SCALE 6"=1'

FRAME WITH HOUSED AND TONGUED JOINTS

Prepare four pieces of wood $7\frac{1}{2} \times 1\frac{1}{4} \times 1\frac{1}{4}$. Groove two at each end, and cut tongues at each end of the others as directed in Plate 34. Join the pieces to form a frame.



PLAN OF FRAME
WITH HOUSED AND TONGUED JOINT
AT EACH ANGLE

PLATE 41.

SCALE 6"=1'

*Designed and drawn by H. Jay, Technical Instructor
under Nottingham School Board*

*Arranged by E. B. Kidson, F.G.S., Science Demonstrator
under Nottingham School Board*

PROJECTION OF HOUSED AND TONGUED JOINT

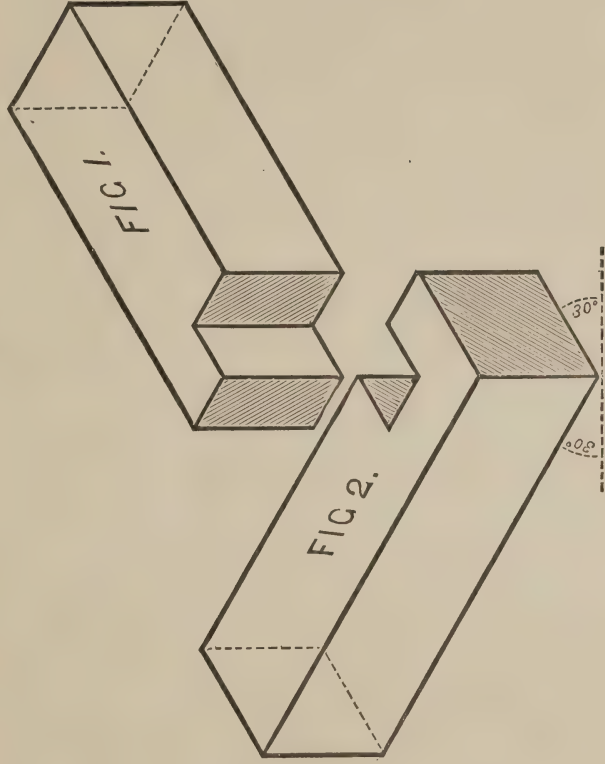


PLATE 40.

SCALE 6"=1'

HOUSED AND TONGUED JOINT

True up a piece of wood to $9 \times 1\frac{1}{4} \times 1\frac{1}{4}$ and halve it. On one set out the groove and on the other the tongue, as in fig. 1. Cut away the waste with saw and chisel.

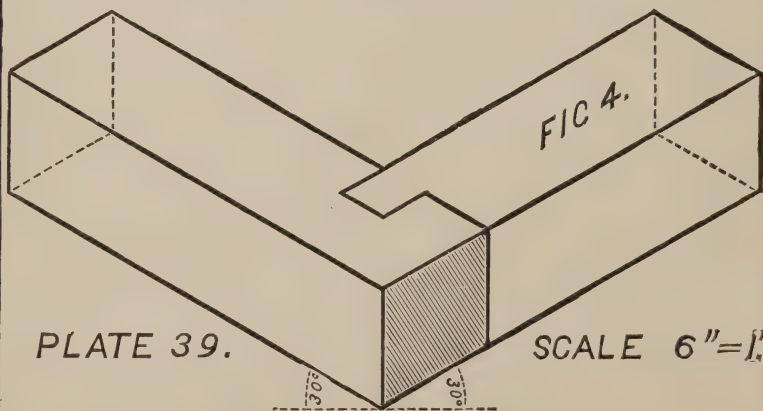
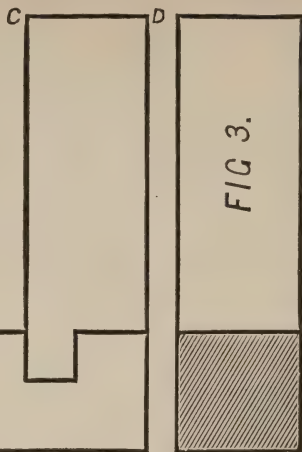
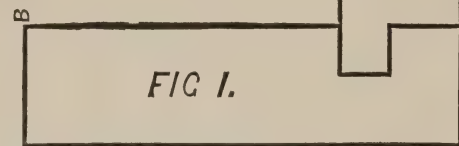


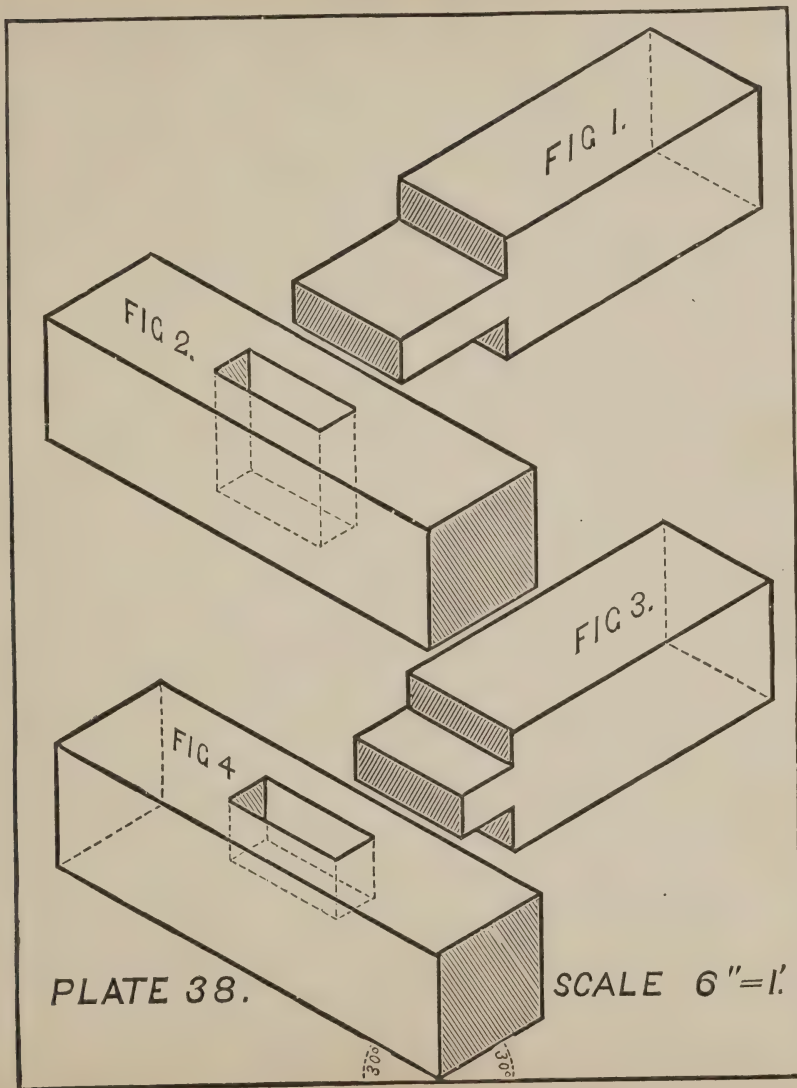
PLATE 39.

SCALE 6"=1"

Designed and drawn by H. Jay, Technical Instructor
under Nottingham School Board

Arranged by E. R. Kidson, F.G.S., Science Demonstrator
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PROJECTION OF CLOSED AND BLIND MORTISE AND TENON JOINTS

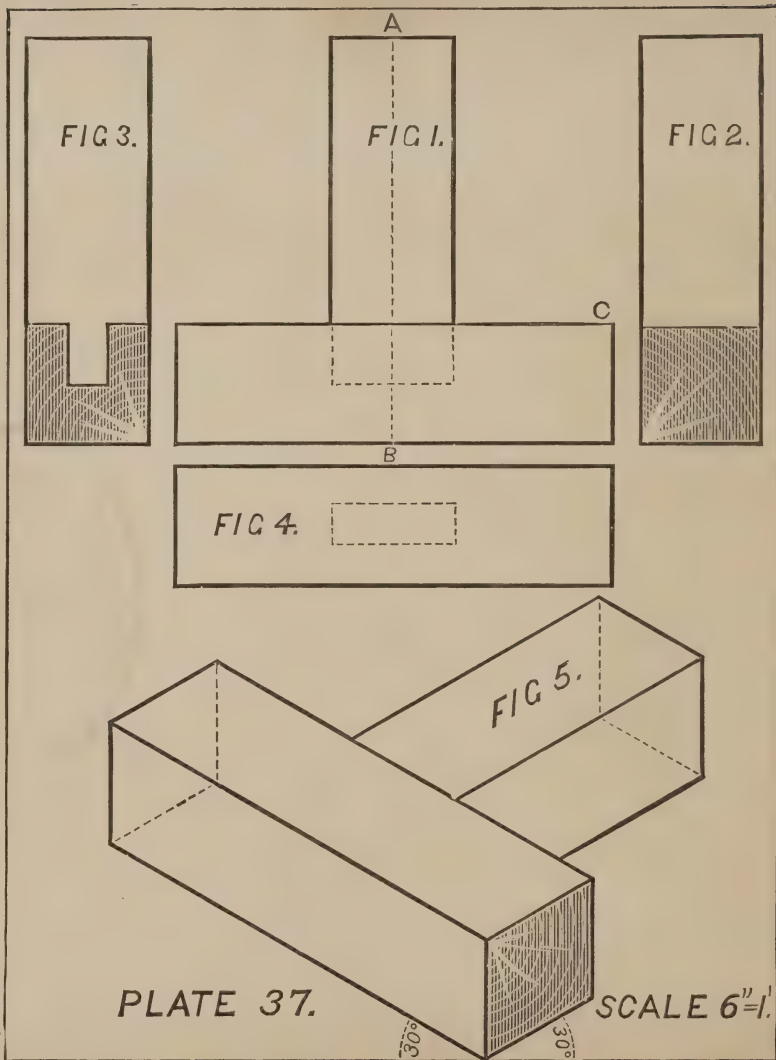


*Arranged by E. R. Kidson, F.G.S., Science Demonstrator
under Nottingham School Board*

*Designed and drawn by H. Jay, Technical Instructor
under Nottingham School Board*

BLIND MORTISE AND TENON JOINT

True up a piece of wood to $8\frac{3}{4} \times 1\frac{1}{4} \times 1\frac{1}{4}$, and cut into two— $4\frac{1}{2}$ and $4\frac{1}{4}$ respectively. On the latter set out and cut the short tenon, and at the centre of the former gauge on one face for the mortise and cut half-way through with a chisel.



PROJECTION OF SHOULDERED MORTISE AND TENON JOINT

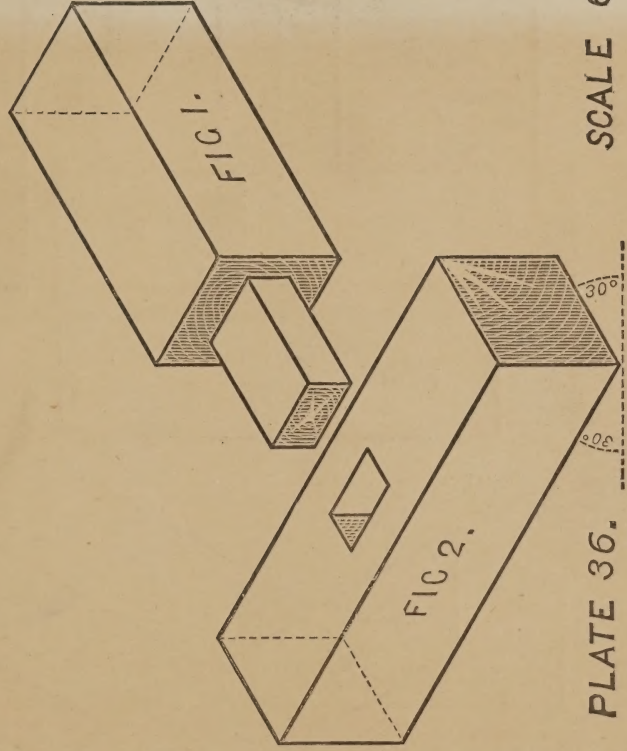
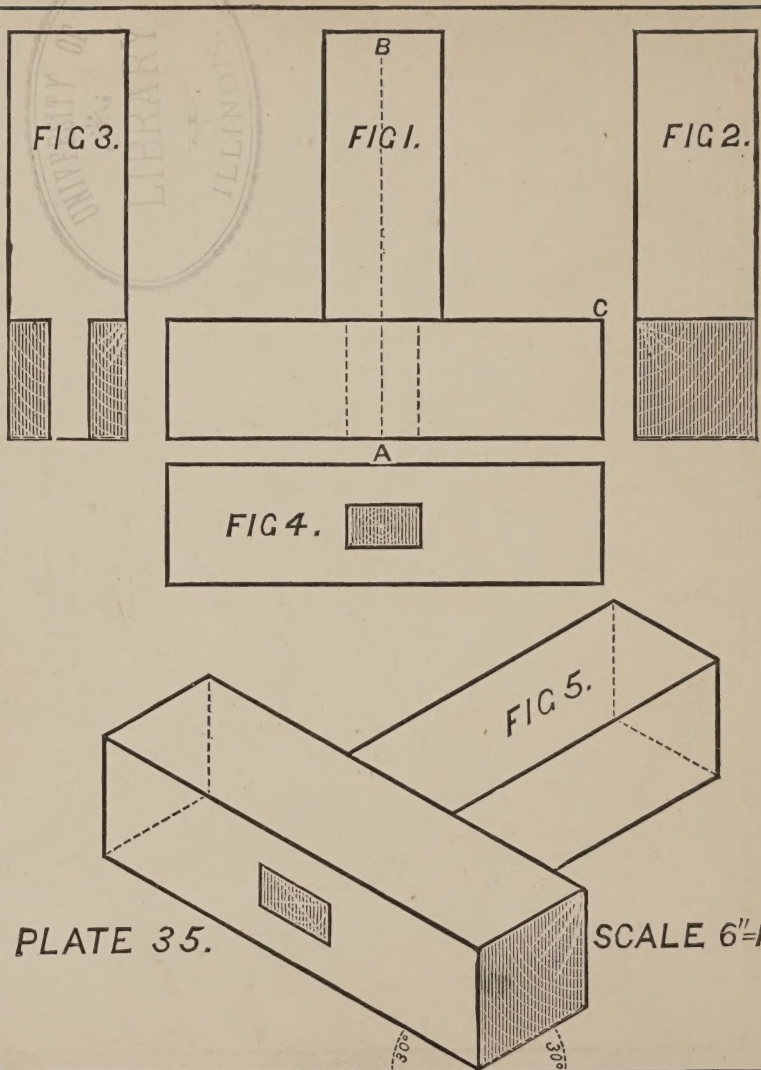


PLATE 36.

SCALE 6" = 1'

SHOULDERED MORTISE AND TENON JOINT

Prepare piece of wood $4\frac{1}{2} \times 1\frac{1}{4} \times 1\frac{1}{4}$, and another $4\frac{1}{4} \times 1\frac{1}{4} \times 1\frac{1}{4}$, as in Plate 34. On the latter gauge for the shouldered tenon, and at the centre of the former gauge front and back for the diminished mortise. Saw out the tenon, and take out the mortise with a chisel.



CLOSED MORTISE AND TENON JOINT

True up a piece of wood to $8\frac{3}{4} \times 1\frac{1}{4} \times 1\frac{1}{4}$, and cut into two— $4\frac{1}{2}$ and $4\frac{1}{4}$ respectively. Gauge the longer piece at centre front and back for mortise, and the shorter at the end for the tenon. Saw off the waste of latter, and cut out the mortise with a chisel.

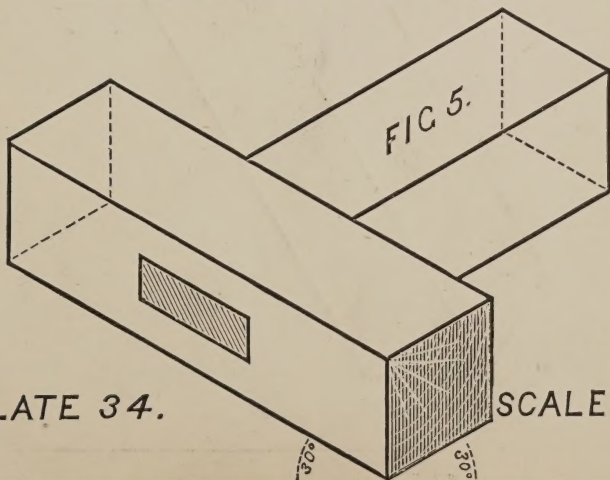
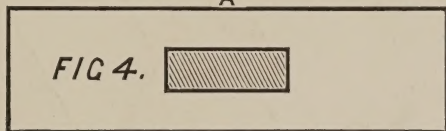
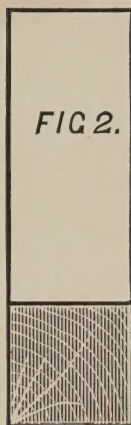
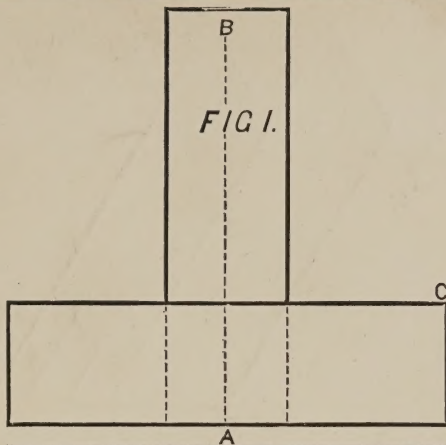
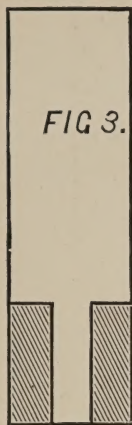


PLATE 34.

SCALE 6"=1'

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under Nottingham School Board

Designed and drawn by H. Jay, Technical Instructor
under Nottingham School Board

PROJECTION OF MITRED MORTISE AND TENON JOINT

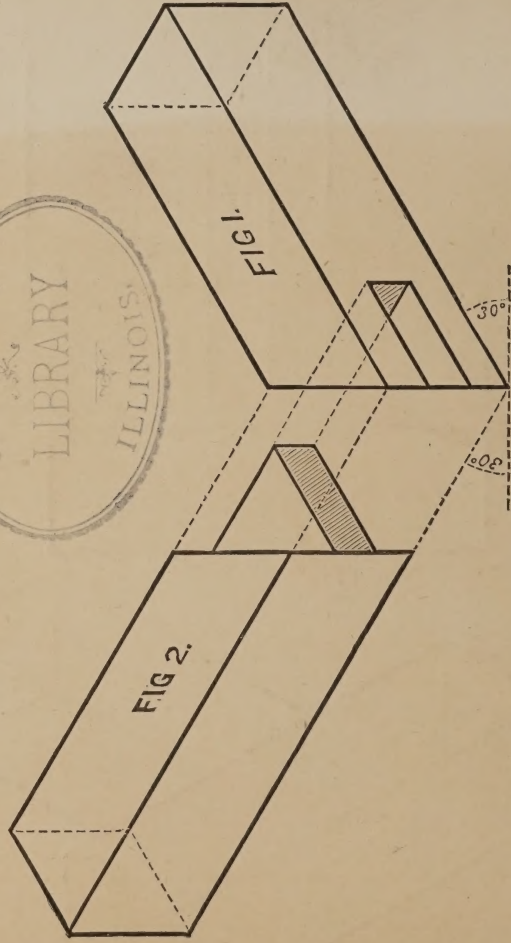
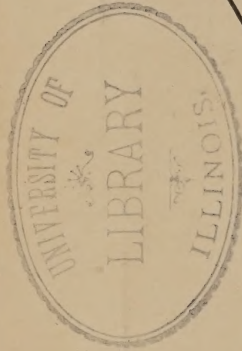


PLATE 33.

SCALE 6"=1'